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Presentation at the CERN Workshop in Innovations in  
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**Mandates: An Australian Example at the  
Queensland University of Technology**

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*Note: This is not a pre-submitted paper, but rather a written recapitulation of a presentation given at the CERN Workshop on Innovations in Scholarly Communication held in the middle of 2009.*

### **Introduction**

This presentation is intended to describe a situation where an open access mandate was developed and implemented at an institutional level, in this case, an Australian University.

The OAI series of workshops have given much evidence of technical and conceptual innovation in thinking about the scholarly record, and the way it will evolve in the digital age. But the basic problem still exists that the essential unit of scholarly communication, the refereed journal article, is significantly underrepresented in organisational institutional repositories.

At Queensland University of Technology a mandate was developed and put in place by early 2004. Although we were not aware of it at the time, it was in fact the first university to develop an institution-wide mandate worldwide. Interesting observations can be made about its effect over a five year period of implementation.

But first, a brief introduction to Queensland University of Technology (QUT): it is one of the larger universities in Australia, located in the fastest growing part of the country in Brisbane, Queensland. There are 40,000 students including 5,000 international students and its most rapidly growing area is research. It's important to understand that what is meant by a university of technology in Australia is more comprehensive than is often understood in Europe. It is not a collection of engineering disciplines, but rather, has seven faculties of Business, Creative Industries, Education, Health, Law, Science and Technology, and Built Environment and Engineering. It has at present four research institutes in Health and Biomedical Innovation, Creative Industries and Innovation, Sustainable Resources, and Information Security.

### **The Problem of Cost**

One of the big challenges for universities of technology has been that their average cost of acquisition and delivery of scholarly communication is higher than the average university. Added to this for Australia, was the further problem historically and particularly before the age of the internet, of having to import most scholarly material. Two additional costs were a feature of this. Firstly there was a cost in efficiency in the slowness of delivery, or conversely the limited affordability of trying to get delivery times that would even approximate the average experience in Europe and North America; and secondly, the currencies in which scholarly communication basically traded, ie those of North-Western Europe and the United States have generally been stronger than the Australian Dollar.

This point was dramatically demonstrated when the Australian Dollar was first floated with costs at my own institution inflating by factors of over 50% in some years.

If you add this particularly Australian problem to the well documented cost pressures, rational and otherwise, in the scholarly publishing market you can see indeed why the internet and its promise was perhaps even more significant in Australia than anywhere else. So any interest in potential change, and in more efficient access has been all the stronger.

For a long time, it seemed obvious that if there were to be major changes in the system it would occur in the great centres of research and intellectual output, in North-Western Europe and North America, or even perhaps evolve as a product of contention between those two arenas. So we thought, or at least I thought for a period, that it would be a matter of watching the debates as they unfolded, waiting for the dominoes to start to topple and making our own response at the right time: picking out the advantages that would come from the changes in the system that seemed so logical and inevitable.

But this didn't happen, and so it was that at the time that the first OAI meetings were planned and held, I decided to act at QUT.

Deciding to act meant being very clear about how an academic institution might come to endorse an approach to a mandate on open access. This required very clear understanding and articulation of the core business of research institutions and their communities and in particular understanding the motives and drivers of researchers, particularly the difference between the motives in producing the "giveaway" literature, and the "non giveaway".<sup>1</sup>

Having established the necessary clarity, the policy was taken through the university research committee, which in turn recommended to the supreme academic decision making body, The University Academic Board, the policy which established the ePrint Repository for research outputs at QUT. A key point of the policy was expressed as follows:

"Material which represents the total publicly available research and scholarly output of the university is to be located in the university's digital or 'ePrint' repository, subject to the exclusions noted. In this way it contributes to a growing international corpus of refereed and other research literature available online, a process occurring in universities worldwide."<sup>2</sup>

The policy additionally stated that the materials to be included involve refereed research articles and contributions; unrefereed research literature, conference contributions, chapters in proceedings, etc; and theses as prepared for the Australian Digital Thesis (ADT process). It further stated that access to these contributions were to be subject to any necessary agreement with the publisher, and importantly that "material to be commercialised, or which contains confidential material, or of which the promulgation would infringe a legal

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<sup>1</sup> This terminology coined and often used by Stevan Harnad, has been very useful in seeking the necessary understandings in the academic community.

<sup>2</sup> This policy is actually now updated, with the updated version at [http://www.mopp.qut.edu.au/F/F\\_01\\_03.jsp](http://www.mopp.qut.edu.au/F/F_01_03.jsp)

commitment by the University and/or the author, should not be included in the repository.”

The policy also stipulated that the material in the repository was to be arranged according to the same categories as were used in Australia for the reporting of research to the main funding authorities at Federal Government level and therefore would be aligned with a reporting process being managed by the university’s Office of Research.

The Library was given the job of implementing the repository. As often the technical issues, while they needed to be solved, (and thanks to the developments in Southampton and elsewhere this was done readily), were not serious challenges. The essential issue was behaviour.

And on this matter, it is worth noting that when the Library sought guidance about how much to use the fact that there was a mandate, we chose in the initial stages not to push that too strongly, but to simply move on to the next researcher if there was any particular issue. There were two features in the implementation that were worth noting. The first was that somewhat contrary to my own expectations, QUT authors showed quite rapidly that they preferred the provision of any “postprint” version to any “preprint” one. In other words, given a choice, they wanted only the best quality research to be on show.

The second significant feature was the “access statistics” feature which would indicate for any given period the top 50 authors, and the top 50 papers. In this way QUT authors had the ability to understand at least one simple metric about the extent of their impact.

I know this has worked significantly. I know this because one of our top researchers, and a leading figure in the humanities in Australia, and an initial sceptic (but not opponent) of the mandate policy, was observed within two years gleefully announcing to a colleague that he had been in the top position for downloads that week.

Over the five years the repository has grown significantly and in 2008 celebrated its 10,000<sup>th</sup> record. It should be noted that at QUT “record” most often means full text.

### **Relationship between Open Access and Citation Frequency**

Some early work internationally (Gargouri), has suggested that open access adds an independent positive increment to citation frequency; that there is no difference in such an increment between mandated and unmandated open access; and that the citation advantage that is yielded is greater for material in high impact journals.<sup>3</sup>

To this general finding I should add a dimension from QUT which strongly suggests an association between depositing behaviour and significant increases in citations. The metrics for Professor Ray Frost, (inorganic chemistry), the

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<sup>3</sup> see <http://www.crsc.uqam.ca/yassine/SelfArchiving/LogisticRegression.htm>

number one author at QUT, shows clearly that after he started uploading the accepted manuscript versions of his published articles to QUT ePrints in 2004, unprecedented growth in his citations as indicated in the Web of Science, took place.

This effect is not limited to Professor Frost, with an early career researcher also showing similar dramatic outcomes.

### **The Overall Research Context**

To place some of this discussion in a wider context, it should be noted that research at QUT by a number of indicators is rising at a rate significantly greater than the national average. For example research income has risen over the five years 2003 to 2007 nationally by 68%, but at QUT by 132%. Similarly success rates in some of the leading research grant activities show a higher figure for QUT.

One other university in Australia which has introduced a mandate policy in the last 12 months was clearly influenced by a perception about the increase in QUT's overall research metrics, and a clearly held view that while not solely responsible, the open access policy development must be an element.

It is worth mentioning that the ePrints record integrates with the published version wherever possible. In the example shown in this presentation one of Frost's publications in an Elsevier publication is indicated in both its ePrints record form and also its final published form, (something which QUT can do in those cases where it also subscribes to the journals).

### **Current Issues and Challenges**

Although we have seen a reasonably positive story at QUT, it is also worth noting some distractions that are arising for us as an institution, and that arise more generally in the sector in Australia and in other jurisdictions.

The first of these is the distraction which arises from the determination by Government to push research quality assessment exercises, which have the effect of reinforcing journal prestige as a barometer of research quality.

While this is instantly an understandable consequence, in the particular case for Australia it is concerning because federally, the government department responsible for the administration of research and research funds has also had in play "an accessibility framework", which appears to be contradicted. As institutions prepare for their quality assessment, they are put into a position where agreements with publishers need to be struck in order to make "published versions" (ie as precisely appearing in the cited journal), accessible for the purpose of inspection. In institutions where there is no clear population in a repository, this is leading to the need for a "dark archive" and indeed even those with a mandate, may be forced in the short term to provide some of their material in that way.

The second challenge continues to come from service providers and some educationalists, who conflate the purpose of repositories when discussing their implementation. The principal conflation here is the one between developing for an educational “learning object” purpose, and a “research object” purpose. If this problem is not the subject of early clarification in the development of policy and practice, it is likely to hinder and possibly completely defeat the desirable development of greater access to research.

The third set of challenges arises from frequent misunderstandings about what open access actually constitutes, and in particular the difference of view and in understanding of “Green OA” and “Gold OA”. The kind of misunderstandings that exist have been documented brilliantly by Peter Suber in a recent publication where he indicates no fewer than 24 “confusables”.<sup>4</sup>

A fourth challenge is the consistent way that fear, uncertainty, and doubt about copyright have the effect of inhibiting authorial contribution to institutional repositories. At QUT the Library offers a service to help manage copyright issues, and indeed our view is that copyright handled the right way, should be seen as an enabler of greater access in future. Nevertheless we are careful to comply with published publisher policy, and have been the lead institution in Australia in developing the “Open Access to Knowledge” (OAK) law project designed to provide more comprehensive and reliable data about such things as publisher copyright policy. The role of open content licensing, in particular Creative Commons, is likely in the long run to assist, despite some misgivings that any discussion about copyright is a distraction and something of an irrelevance in terms of open access policy and operation.

### **Recent encouraging developments**

Just in recent times it has become evident that the ePrints Repository at QUT has a clear and central status in encouraging desired research behaviours among academic staff. The champion researchers themselves become advocates, and teach their cohorts of PhD students about the importance of making one’s work accessible. In addition to this the faculty at QUT (Education) with the most spectacular rise among all QUT faculties in metrics recently, has made depositing in the institutional IR a matter for individual faculty reward, and encourages all academic staff to add their ePrint link to their email signature.

Another by-product of the involvement of the library in working among research groups to enhance their access is the closer relationship between the Library and the research management portfolio (the Office of Research) in a number of ways.

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<sup>4</sup> see <http://www.earlham.edu/~peters/fos/newsletter/04-02-09.htm#fieldguide>

### Conclusion

Work carried out by Arthur Sale some time ago showed unequivocally that having a mandate in place makes all the difference in the success of development of institutional repositories.<sup>5</sup> To this we can now add sufficient evidence of momentum throughout the university to be able to claim that the open access mandate at QUT has contributed to the growing dynamism and health of research generally. While this may seem unremarkable to long standing champions and advocates of open access in the research community, (and indeed it is unremarkable), it may be a show-starting argument for those who have seen the consideration of open access languishing as a tenth order conversation in their universities.

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<sup>5</sup> see <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1324/>